UNITED STATES PATENT AND TRADEMARK OFFICE

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CAO, PHUONG THAO

ART UNIT	PAPER NUMBER
2164	

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _17 July 2003_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-24_ is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-24_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _17 July 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____.

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _7/17/03 & 8/29/05_.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This action is in response to Application filed on 07/17/2003.

2.   Claims 1-24 are pending.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (-1) an application for patent, published under section 122(b), by another
> filed in the United States before the invention by the applicant for patent or (2) a patent granted on an
> application for patent by another filed in the United States before the invention by the applicant for patent,
> except that an international application filed under the treaty defined in section 351(a) shall have the effects
> for purposes of this subsection of an application filed in the United States only if the international
> application designated the United States and was published under Article 21(2) of such treaty in the English
> language.

4.   Claims 1-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamagami et al.

(Publication No US 2003/0233518).

        As to claim 1, Yamagami et al. teach:

"A computer for dynamically mirroring a data storage configuration" (see [0029], [0147] and

[0148]), comprising:

        "a data interface coupled to a data storage medium through which information relating to

a first storage configuration of the first data storage medium is communicated" (see [0051],

[0052] and [0070] wherein "SCSI" is equivalent to Applicant's "data interface", a storage

subsystem of each application server is equivalent to Applicant's "data storage medium", and

"mapping information" is the information relating to storage configuration as illustrated in

Applicant's claim language);

"a software agent embodied on a computer readable medium for comparing the first

storage configuration to a second configuration, and at least when a storage configuration

parameter differs between the first and the second storage configurations, for one of

automatically conforming the first storage configuration to mirror the second storage

configuration and automatically output a change to be made to conform the second storage

configuration to mirror the first storage configuration" (see [0050]-[0052], [0078], [0147] and

[0148] wherein VPM agent and/or VPM engine is equivalent to Applicant's "software agent",

and the disclosure of detecting a configuration change and mirroring added or removed primary

volumes or added or removed mirror volumes, wherein "primary volumes" is equivalent to

Applicant's "first storage" and "mirror volumes" is equivalent to Applicant's "second storage",

implies the inclusion of comparing the first storage configuration to the second storage

configuration and conforming one storage configuration to mirror the other storage configuration

as illustrated in Applicant's claim language);

"a communications interface through which one of the second storage configuration is

received and the change is transmitted" (see [0142], [0147] and [0148] wherein "mirror

volumes" is equivalent to Applicant's "second storage" and [0148] discloses that VPM agent can

communicate information relating to configuration change to VPM engine, which means there

must exist a communications interface as illustrated in Applicant's claim language; also see

[0118], [0119] and [0144]); and

"a data processor for executing the software agent" (see [0043] and [0044] wherein

"VPM server" is equivalent to Applicant's "data processor", and "VPM engine" is equivalent to

Applicant's "software agent"; also see [0048]- [0050]).

As to claim 2, this claim is rejected based on arguments given above for rejected claim 1

and is similarly rejected including the following:

Yamagami et al. teach:

"wherein the storage configuration parameter is selected from the group: a database

layout; a logical unit number (LUN) type; a LUN size; a measure of LUN performance; and a

measure of LUN reliability" (see [0118], [0119] wherein mapping information for each instance

of a database is equivalent to Applicant's "database layout"; see [0074], [0075], [0071] and

[0091] wherein physical volume or physical disk is equivalent to Applicant's "LUN", wherein

vendor name, system name and serial number of the disk system imply a logical unit number

(LUN) type and LUN size as illustrated in Applicant's claim language, and wherein performance

level and reliability level are equivalent to Applicant's "measure of LUN performance" and

"measure of LUN reliability").

As to claim 3, this claim is rejected based on arguments given above for rejected claim 1

and is similarly rejected including the following:

Yamagami et al. teach:

"wherein the software agent is configured to one of output the first storage configuration to and receive the second storage configuration from a second software agent through the communication interface" (see [0050], [0142] and [0148] wherein VPM agent is equivalent to Applicant's "software agent", VPM engine is equivalent to Applicant's "second software agent", "information about the applications" is equivalent to Applicant's "first storage configuration", and "information to begin mirroring operations" is equivalent to Applicant's "second storage configuration").

As to claim 4, this claim is rejected based on arguments given above for rejected claim 1 and is similarly rejected including the following:

Yamagami et al. teach:

"wherein conforming the first storage configuration to mirror the second storage configuration comprises creating a secondary LUN based on at least one of a LUN type and a LUN size received through the communications interface when a primary LUN of the data storage medium is unsuitable" (see e.g., [0133]-[0133] disclose the selection of suitable mirror volume based on criteria arguments which include LUN type and LUN size [0091] as discussed above, as illustrated in Applicant's claim language; also see [0147], [0148], [0151], [0156] and [0157] for configuration mirroring to occur between storage systems in both directions).

As to claim 5, this claim is rejected based on arguments given above for rejected claim 1 and is similarly rejected including the following:

Yamagami et al. teach:

"wherein the software agent receives the first storage configuration from a relational database management computer program" (see [0119] wherein VPM agent is equivalent to Applicant's "software agent" and the usage of SQL in Oracle to obtain primary volume information [0099] indicates Oracle application as a relational database management computer program, as illustrated in Applicant's claim language).

As to claim 6, Yamagami et al. teach:

"A computer program for dynamically mirroring a local assemblage of data" (see [0151]), comprising:

"a remote software agent embodied on a computer readable storage medium and configured to couple to at least one remote storage server and to a local software agent wherein the remote software agent comprises instructions for:" (see [0142] wherein VPM engine is equivalent to Applicant's "remote software agent" and VPM agent is equivalent to Applicant's "local software agent")

"receiving a local storage server configuration including a local storage parameter from the local software agent" (see e.g., [0118] and [0119] disclose that VPM engine obtains system configuration information from application server through VPM agent wherein VPM engine is equivalent to Applicant's "remote software agent", VPM agent is equivalent to Applicant's "local software agent", and system configuration information is equivalent to the local storage server configuration as illustrated in Applicant's claim language; also see [0123]);

"determining a remote storage parameter corresponding to the local storage parameter from the at least one remote storage server" (see [0123] and [0133] wherein mirror volume is

equivalent to Applicant's "remote storage", primary volume is equivalent to Applicant's "local

storage", and criteria argument is equivalent to Applicant's "parameter"; also see [0156] and

[0157]);

"configuring the remote storage server in accordance with the received storage parameter

to mirror the local storage server configuration" (see [0139], and [0142]-[0148] wherein

application server containing the mirror volumes is equivalent to Applicant's "remote storage

server").

As to claim 7, this claim is rejected based on arguments given above for rejected claim 6,

and is similarly rejected including the following:

Yamagami et al. teach:

"wherein the remote software agent further comprises computer instructions for

comparing the received local storage parameter to the determined remote storage parameter" (see

[0133]-[0139] wherein VPM engine is equivalent to Applicant's "remote software agent" and

mirror volume implies Applicant's "remote storage", and in which the ability to select the best or

next best mirror volume that satisfies all of the conditions, wherein "the conditions" is equivalent

to Applicant's "received local storage parameter", implies the inclusion of computer instructions

for comparing as illustrated in Applicant's claim language).

As to claim 8, this claim is rejected based on arguments given above for rejected claim 6

and is similarly rejected including the following:

Yamagami et al. teach:

"wherein the storage parameter is at least one of a database layout; a logical unit number

(LUN) type; a LUN size; a measure of LUN performance; and a measure of LUN reliability"

(see [0118], [0119] wherein mapping information for each instance of a database is equivalent to

Applicant's "database layout"; see [0074], [0075], [0071] and [0091] wherein physical volume

or physical disk is equivalent to Applicant's "LUN", wherein vendor name, system name and

serial number of the disk system imply a logical unit number (LUN) type and LUN size as

illustrated in Applicant's claim language, and wherein performance level and reliability level are

equivalent to Applicant's "measure of LUN performance" and "measure of LUN reliability").

As to claim 9, this claim is rejected based on arguments given above for rejected claim 6

and similarly rejected including the following:

Yamagami et al. teach:

"wherein the remote software agent further comprises computer instructions for

communicating a message that the remote storage server conforms to the local storage server"

(see [0142] wherein VPM engine is equivalent to Applicant's "remote software agent",

"assigned mirror volumes" implies Applicant's "remote storage server", application server is

equivalent to Applicant's "local storage server, and "information to begin mirror operations" is

equivalent to Applicant's "a message that the remote storage server conforms to the local

storage").

As to claim 10, this claim is rejected based on arguments given above for rejected claim 6

and is similarly rejected including the following:

Yamagami et al. teach:

"wherein the remote software agent further comprises computer instructions for creating a secondary remote mirror LUN based on at least one of a LUN type and a LUN size received from the local software agent, when a primary remote mirror LUN is not suitable" (see e.g., [0133]-[0139] wherein VPM engine is equivalent to Applicant's "remote software agent" and VPM agent is equivalent to Applicant's "local software agent", disclose the selection of suitable mirror volume based on criteria arguments which include LUN type and LUN size [0091] as discussed above, which is equivalent to create a secondary remote mirror LUN when a primary remote mirror LUN is not suitable [0157] as illustrated in Applicant's claim language; also see [0147], [0148], [0151], [0156] and [0157] for configuration mirroring to occur between storage systems in both directions).

As to claim 11, this claim is rejected based on arguments given above for rejected claim 6 and is similarly rejected including the following:

Yamagami et al. teach:

"wherein the remote software agent operates in cooperation with the at least one remote storage server using a relational database management system" (see [0118] and [0119] wherein VPM engine is equivalent to Applicant's "remote software agent", application servers is equivalent to Applicant's "at least one remote storage server", the disclosure of VPM engine obtaining information from application server is equivalent to Applicant's "remote software agent operates in cooperation with at least one remote storage server", and the usage of SQL in

Oracle to obtain primary volume information [0099] indicates Oracle application as a relational

database management system, as illustrated in Applicant's claim language).

As to claim 12, this claim is rejected based on arguments given above for rejected claim 6

and is similarly rejected including the following:

Yamagami et al. teach:

"the local software agent embodied on a computer readable storage medium and

configured to couple to at least one local storage server and to the remote software agent" (see

[0043] and [0050] wherein VPM agent is equivalent to Applicant's "local software agent", VPM

engine included in VPM server is equivalent to Applicant's "remote software agent", and

application server is equivalent to Applicant's "local storage server").

As to claim 13, this claim is rejected based on arguments given above for rejected claim

12 and is similarly rejected including the following:

Yamagami et al. teach:

"wherein the local software agent comprises computer instructions for" (see [0050] wherein

VPM agent is equivalent to Applicant's "local software agent"):

"polling a configuration of the local storage server" (see [0050]-[0052] wherein

application server is equivalent to Applicant's "local storage server", and obtaining the

information as disclosed from application server is equivalent to Applicant's "polling a

configuration of the local storage server");

"determining the local storage parameter of the local storage server" (see e.g., [0053]-[0068] discloses how VPM agent can determine tablespace information wherein tablespace information is equivalent to local storage parameter of the local storage server as illustrated in Applicant's claim language); and

"communicating the local storage server configuration including the local storage parameter to the remote software agent" (see [0050], [0070] and [0081]-[0088] wherein VPM agent is equivalent to Applicant' "local software agent", VPM engine in VPM server is equivalent to Applicant's "remote software agent", and physical disk information [0088] is an example of storage parameter as illustrated in Applicant's claim language).

As to claim 14, this claim is rejected based on arguments given above for rejected claim 13 and is similarly rejected including the following:

Yamagami et al. teach:

"wherein the computer instructions for communicating the local storage parameter to the remote software agent comprise instructions to initiate said communicating when the local software agent detects a change in a local storage server configuration" (see [0148] wherein VMP agent is equivalent to Applicant's "local software agent", VPM engine is equivalent to Applicant's "remote software agent", and the disclosure that VMP agent detects a configuration change and communicates such information to VPM engine implies the inclusion of instructions to initiate said communicating as illustrated in Applicant's claim language).

As to claim 15, this claim is rejected based on arguments given above for rejected claim 14 and is similarly rejected including the following:

Yamagami et al. teach:

"wherein the change in the local storage server configuration is at least one of a new volume added, an existing volume removed, a change in volume, and a failure of a remote mirror link between the local storage server and the remote storage server" (see [0147], [0148], and [0187]).

As to claim 16, this claim is rejected based on arguments given above for rejected claim 12 and is similarly rejected including the following:

Yamagami et al. teach:

"wherein the local software agent operates in cooperation with the at least one local storage server using a relational database management system" (see [0049] and [0050] wherein VPM agent is equivalent to Applicant's "local software agent", application server is equivalent to Applicant's "at least one local storage server", and the usage of SQL in Oracle to obtain primary volume information [0099] indicates Oracle application as a relational database management system, as illustrated in Applicant's claim language).

As to claim 17, Yamagami et al. teach:

"A method of facilitating self-configuring of a remote mirroring system" (see [0151]) comprising:

"discovering a primary storage configuration and database layout" (see [0051] wherein information identifies the primary volumes is equivalent to Applicant's "primary storage configuration" and instances of database in database application is equivalent to Applicant's "database layout");

"mapping said primary storage configuration and database layout creating at least one primary storage subsystem volume" (see [0051] and [0086] wherein a logical volume is equivalent to Applicant's "one primary storage subsystem volume");

"receiving information concerning a remote storage subsystem" (see [0123] and [0144] wherein application server containing the mirror volumes is equivalent to Applicant's "remote storage subsystem"; also see [0070]);

"polling said primary storage subsystem volume and a relational database management system (RDBMS)" (see [0050]-[0053] and [0081] wherein database application Oracle is equivalent to Applicant's "relational database management system", each logical volume on application server is equivalent to Applicant's "primary storage subsystem volume" and application information table as disclosed implies the polling as illustrated in Applicant's claim language);

"comparing current information from said primary storage subsystem volume to the received information" (see [0148] in which the disclosure of detecting the configuration change implies the inclusion of comparing current information to the received information as illustrated in Applicant's claim language); and

"transmitting storage changes to said remote storage subsystem" (see [0148] and [0144] for communicating the change to application server containing the mirror volumes through VPM

engine wherein application server containing the mirror volumes is equivalent to Applicant's

"remote storage subsystem").

As to claim 18, this claim is rejected based on arguments given above for rejected claim

17 and is similarly rejected including the following:

Yamagami et al. teach:

"wherein said storage change are substitutable for database changes" (see e.g., [0147]

disclosed the configuration change of a data object (instance of database [0051]) in database

system, which is equivalent to Applicant's "database changes").

As to claim 19, Yamagami et al. teach:

"A method of automatically extending a storage system hardward mirroring function" (see

[0151]), comprising:

"mapping volumes received from a particular local storage system corresponding to

physical LUNs, said physical LUNs being mirrored to a remote storage subsystem" (see [0125]

and [0130] for the mapping between logical volume to physical volumes (or primary volumes)

wherein physical volumes (or primary volumes) are equivalent to Applicant's "physical LUNs";

see [0133] and [0134] and [0187] wherein remote mirror volume implies Applicant's "remote

storage subsystem" and the disclosure of mirror volume as physical disk [0134] implies said

physical LUNs being mirrored as illustrated in Applicant's claim language; also see [0093]-

[0099]);

"evaluating remote mirror LUNs based on at least one of size, type, performance and reliability to find suitable LUN" (see [0133]-[0137] and [0187] for the selection of mirror volumes wherein mirror volumes are equivalent to Applicant's "remote mirror LUNs");

"creating a suitable remote mirror LUN if a suitable LUN is not found" (see [0179]-[0195] for the disclosure of createmirror command which allows to create a suitable mirror volume [0195] wherein mirror volume is equivalent to Applicant's "mirror LUN", as illustrated in Applicant's claim language); and

"creating a suitable target and mirroring a volume if a volume is to be added" (see e.g., [0147]-[0148] discloses that newly added physical volumes must be mirrored which implies creating a target and mirroring a volume if it is to be added as illustrated in Applicant's claim language).

As to claim 20, this claim is rejected based on arguments given above for rejected claim 19 and is similarly rejected including the following:

Yamagami et al. teach:

"wherein said mapping further includes querying the state of mirroring to determine a proper configuration for an application" (see e.g., [0081], [0083], [0084], [0088] and [0089] disclose many information tables for mapping which can be used to querying the state of mirroring to determine a proper configuration for an application as illustrated in Applicant's claim language).

As to claim 21, this claim is rejected based on arguments given above for rejected claim 19 and is similarly rejected including the following:

Yamagami et al. teach:

"wherein said evaluating determines a proper modification at said remote storage subsystem that includes invoking procedures to mirror at least one new volume and assigning the at least one new volume to said remote storage subsystem" (see [0147] and [0148] wherein mirror volume is located in remote storage subsystem [0187]; also see [0151] for the mirroring occurring between storage systems in both directions).

As to claim 22, this claim is rejected based on arguments given above for rejected claim 21 and is similarly rejected including the following:

Yamagami et al. teach:

"wherein said modification further includes adding at least one new volume to an operating logical volume, updating a remote storage subsystem and invoking procedures to mirror said at least one new volume" (see [0147], [0148], [0151] and [0157]   wherein data object is equivalent to Applicant's "operating logical volume").

As to claim 23, Yamagami et al. teach:

"A computer configured for coupling to a data storage system" (see [0070]), comprising:

"means for discovering a first storage configuration and database layout of the data storage system" (see [0051] and [0070] wherein information identifies the primary volumes is

equivalent to Applicant's "first storage configuration" and instances of database in database

application is equivalent to Applicant's "database layout");

"means for mapping said first storage configuration and database layout creating at least

one first storage subsystem volume" (see [0051] and [0086] wherein a logical volume is

equivalent to Applicant's "one first storage subsystem volume");

"means for receiving information concerning a second storage subsystem" (see [0123]

and [0144] wherein application server containing the mirror volumes is equivalent to Applicant's

"second storage subsystem"; also see [0070]);

"means for polling said first storage subsystem volume and a relational database

management system (RDBMS)" (see [0050]-[0053] and [0081] wherein database application

Oracle is equivalent to Applicant's "relational database management system", each logical

volume on application server is equivalent to Applicant's "first storage subsystem volume" and

application information table as disclosed implies the polling as illustrated in Applicant's claim

language);

"means for comparing current information from said first storage subsystem volume to

the received information" (see [0148] in which the disclosure of detecting the configuration

change implies the inclusion of comparing current information to the received information as

illustrated in Applicant's claim language); and

"means for transmitting storage changes to said second storage subsystem" (see [0148]

and [0144] for communicating the change to application server containing the mirror volumes

through VPM engine wherein application server containing the mirror volumes is equivalent to

Applicant's "second storage subsystem").

As to claim 24, <u>Yamagami et al.</u> teach:

"A computer configured for coupling to a first data storage system" (see [0050]) comprising:

"means for mapping volumes received from a first data storage system corresponding to physical LUNs, said physical LUNs being mirrored in a second storage subsystem" (see [0125] and [0130] for the mapping between logical volume to physical volumes (or primary volumes) wherein physical volumes (or primary volumes) are equivalent to <u>Applicant</u>'s "physical LUNs"; see [0133] and [0134] and [0187] wherein remote mirror volume implies <u>Applicant</u>'s "remote storage subsystem" and the disclosure of mirror volume as physical disk [0134] implies said physical LUNs being mirrored as illustrated in <u>Applicant</u>'s claim language; also see [0093]-[0099]);

"means for evaluating mirrored LUNs in the second storage subsystem based on at least one of size, type, performance and reliability to find a suitable LUN" (see [0133]-[0137] and [0187] for the selection of mirror volumes wherein mirror volumes are equivalent to <u>Applicant</u>'s "mirrored LUNs");

"means for creating a suitable mirror LUN in the second storage subsystem if a suitable LUN is not found in the second storage subsystem" (see [0179]-[0195] for the disclosure of createmirror command which allows to create a suitable mirror volume [0195] wherein mirror volume is equivalent to <u>Applicant</u>'s "mirror LUN", as illustrated in <u>Applicant</u>'s claim language); and

"means for creating a suitable target in the second storage subsystem and mirroring a volume in the second storage subsystem if a volume is to be added" (see e.g., [0147]-[0148]

discloses that newly added physical volumes must be mirrored which implies creating a target

and mirroring a volume if it is to be added as illustrated in <u>Applicant</u>'s claim language; also see

[0151] for mirroring occurring between storage systems in both directions).

5.   The prior art made of record and not relied upon is considered pertinent to Applicant's

disclosure.

        <u>Grover</u> (Publication No US 2002/0103968) teaches a hardware-based mirroring agent

that provides a LUN based I/O interface to remote host computer, including mirrored LUNs.

        <u>Marks</u> (Publication NO EP 0 593 062 / 1994) teaches a redundant networked database

system in which upon changes to the database, the primary and backup communication agents

communicate with each other and to automatically update the backup.

        <u>Yanai et al.</u> (US Patent No 5,544,347 / 1996) teach a data storage system which provides

and maintains identical secondary data on a preferably geographically remote secondary data
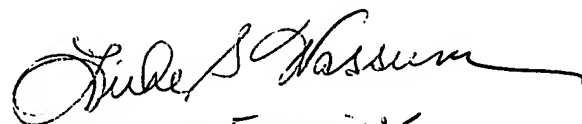
storage system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong-Thao Cao whose telephone number is (571) 272-2735. The examiner can normally be reached on 8:30 AM - 5:00 PM (Mon - Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PTC

January 6, 2006

Primary Examiner
Art Unit 2167